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millimeter classes showing the frequencies 1, 6, 5, 8, 4, 5, 2, 1, is grouped in a ratio of 7 wide: 17 medium: 8 narrow or nearly the expected 1:2:1. Every variation curve of purely chance variates can be arranged in this way by counting one-fourth of all the variates from each extreme, leaving the group between the quartiles as the 50 per cent. intermediates expected.

The author reaffirms in a general statement the explanation offered in his first paper, <sup>19</sup> to account for the appearance of certain *nova*; but makes an interesting observation in disagreement with that explanation, apparently without noting the discrepancy—the new character of the pigmented parent which was changed to the active state by crossing. He now states that he could occasionally observe the mottled pattern like a faint water mark in the *white* parent, and its occurrence there makes this an excellent new evidence that the mottled character is not latent in the usual sense of being *inactive*, and that it is *not* present in the pigmented parent, but being possessed by the *white* parent is simply *invisible* owing to the lack of pigment.—George H. Shull.

Spraying potatoes.—Stewart, Eustace, and Sirrine20 have published the extensive results secured by them during 1904 in their series of experiments in the prevention of potato diseases by spraying. The results secured during previous years should be read in this connection.21 During 1904 a total of fifty-eight experiments were conducted; a few of these were upon the grounds of the Experiment Station at Geneva, while the remainder were conducted as "farmers' business experiments" in various parts of the state. The experiments at Geneva form a part of a ten-year series of experiments designed to give average results for various seasons. The other experiments should yield valuable data year after year as to the actual net gains to be expected from the spraying against potato diseases under actual farm conditions. At Geneva five sprayings increased the yield 233 bushels per acre, while a gain of 191 bushels was secured from three sprayings. This gain was mostly due to the longer growth of the plants made possible by the prevention of the late blight and the rot which follows it. In the business experiments, covering a total of 180 acres, the net gain per acre due to spraying was \$24.86. The average loss from blight in New York State during 1904 was not less than 60 bushels per acre. The suggestion is made that the community hire some person to do all their spraying, thus effecting a saving of time and labor.—E. MEAD WILCOX.

Alternation of generations in Phaeophyceae.—Strasburger<sup>22</sup> agrees with Olymanns that there is no alternation of generations in the Phaeosporeae. He

<sup>19</sup> See Bot. GAZETTE 39:303-304. 1905.

<sup>&</sup>lt;sup>20</sup> STEWART, F. C., EUSTACE, H. J., and SIRRINE, F. A., Potato spraying experiments in 1904. Bull. N. Y. Geneva Exp. Stat. 264:93-204. pls. 1-16. 1 map. 1905.

<sup>&</sup>lt;sup>21</sup> Potato spraying experiments in 1902. Bull. N. Y. Geneva Exp. Stat. 221: 235-263. 1902.

Potato spraying experiments in 1903. Bull. N. Y. Geneva Exp. Stat. 241. 1903.

<sup>&</sup>lt;sup>22</sup> STRASBURGER, EDWARD, Zur Frage eines Generationswechsels bei Phaeophyceen. Bot. Zeit. **64**:1–7. 1906.